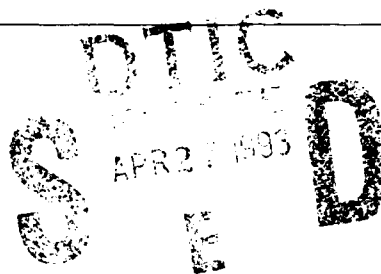


Soil Mechanics Information

**SMIAC**

Analysis Center



Volume 93-1

**AD-A263 474**



March 1993

## Soil Mechanics Information Analysis Center

The Soil Mechanics Information Analysis Center (SMIAC) is one of a number of Information Analysis Centers established by the Department of Defense to collect, review, analyze, evaluate, summarize, and store available information on subjects within highly specialized technical areas of concern. The SMIAC covers the following subject areas:

Soil Mechanics  
Rock Mechanics  
Engineering Geology  
Engineering Seismology  
Geophysics  
Hydrogeology  
Earthquake Engineering

The SMIAC can acquire state-of-the-art reference materials in any of the above subjects and provide detailed technical analysis by some of the world's most prominent experts. The center is located within the Geotechnical Laboratory at the U.S. Army Engineer Waterways Experiment Station (WES). The Geotechnical Laboratory is the largest laboratory in the country devoted to this kind of research. The staff has acquired 85 advanced degrees including 31 PhDs. The WES library has an extensive engineering and scientific collection of

more than half-a-million reference materials and network access to a world of additional information. The SMIAC offers direct contact with the experts and on-line access to the WES library.

The day-to-day operation of the SMIAC typically involves responses to requests for information. The center can provide limited services free of charge, such as a request for a technical report. Special studies called "Technical Area Tasks" (TAT) can be performed on a cost-reimbursable basis. TATs involve work on a narrowly focused subtopic within the scope of SMIAC. The most current and useful information relative to the subtopic can be assembled through acquisition and analysis of preexisting scientific and technical information and the performance of primary research.

### In This Issue

- Waterways Experiment Station
- Geotechnical Laboratory
- Geotechnical Experts
- Recent Publications

A Department of Defense Information Analysis Center

The SMIAC bulletin is published and distributed periodically. Please contact the Director of SMIAC for more information:

Director, Soil Mechanics Information Analysis Center  
U.S. Army Engineer Waterways Experiment Station  
ATTN: CEWES-GV-Z  
3909 Halls Ferry Road  
Vicksburg, MS 39180-6199

Phone: 601-634-3376

FAX: 601-634-3139

**93-08897**



8179

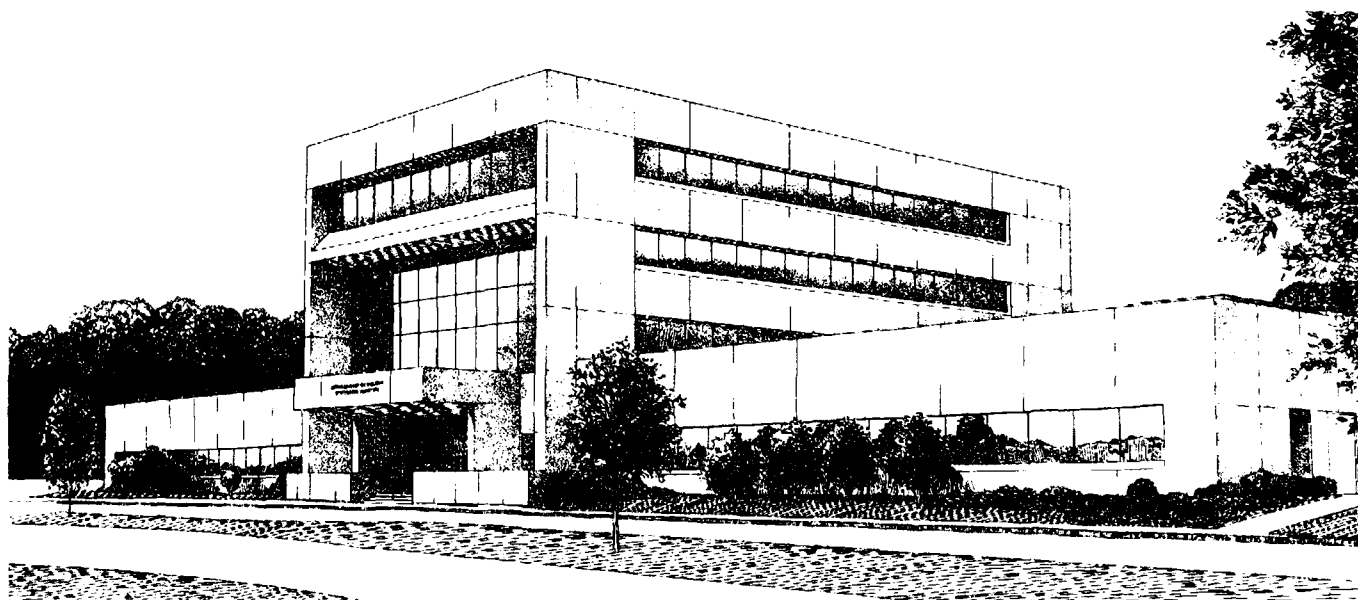
# The Waterways Experiment Station

The Waterways Experiment Station (WES) is the principal research, testing, and development facility of the U.S. Army Corps of Engineers. The 672-acre installation consists of a complex of 6 laboratories:

Hydraulics Laboratory  
Geotechnical Laboratory  
Structures Laboratory  
Environmental Laboratory  
Coastal Engineering Research Center  
Information Technology Laboratory

The Tri-Service Reliance Strategy designates WES as the lead laboratory for airfields and pavements, sustainment engineering, and survivability and protective structures.

The SMIAC is one of five recognized Department of Defense Information Analysis Centers located at WES.



## The Geotechnical Laboratory

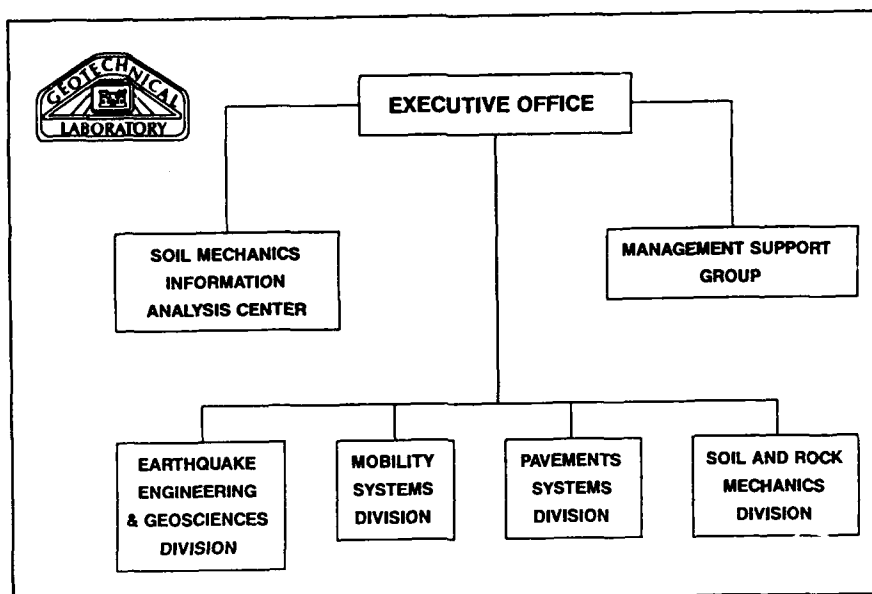
The Geotechnical Laboratory conducts research, development, and testing in earth sciences including soil mechanics, structural foundation design, embankment design, seepage analysis, slope stability, pavement technology, engineering geology, rock mechanics, engineering geophysics, expedient surfacing, dust control, earthquake engineering,

groundwater contamination, vehicle mobility, and trafficability. The SMIAC is part of the Geotechnical Laboratory.

Main organizational elements of the Geotechnical Laboratory are shown in the following chart.

## Partial Listing of Recent Geotechnical Laboratory Publications

| <i>Report-Number</i> | <i>Date</i> | <i>Title</i>  | <i>NTIS<br/>AD Number</i> |
|----------------------|-------------|---|---------------------------|
| IR-GL-92-4.1         | 09/92       | USACE Geotechnical Earthquake Engineering Software, By Sykora, David W., Wahl, Ronald E.  | A257068                   |
| MP-GL-92-3           | 01/92       | Geotechnical Centrifuge used at University of Cambridge Geotechnical Centre August-September 1991, By Gilbert, P. A.  |                           |
| MP-GL-92-5           | 02/92       | Geophysical Investigation at Solid Waste Management Unit No. 3, Fort Buchanan, Puerto Rico, By Llopis, José L. and Sharp, Michael K.  | A247104                   |
| MP-GL-92-8           | 06/92       | Geophysical Investigation at Philadelphia Naval Shipyard, By Sharp, Michael K.  | A250594                   |
| MP-GL-92-17          | 07/92       | A Case Study: Damage to the Metropolitan Oakland International Airport Caused by the Loma Prieta Earthquake, By Vallerger, Barney A. and Grogan, William P.                               |                           |
| MP-GL-92-23          | 08/92       | Kwajalein Drydock Pile Foundation Analysis, By Johnson, Lawrence D.   | A255081                   |
| MP-GL-92-31          | 09/92       | McCon-A General Contouring Program For Personal Computers, By Palmerton, John B.  |                           |
| MP-GL-92-34          | 09/92       | Geophysical Investigation at Dugway Proving Ground, Utah, By Llopis, José L. and Zawila, Jeffrey S.   | A257098                   |
| MP-GL-92-35          | 09/92       | Effect Of Sampling Disturbance on Laboratory-Measured Soil Properties, By Gilbert, P. A.  |                           |
| MP-S-73-1.28         | 06/92       | State-Of-The-Art For Assessing Earthquake Hazards In The United States, By Leeds, David J.  | A256276                   |
| TR-GL-86-7           | 09/92       | Seismic Stability Evaluation of Alben Barkley Lock and Dam Project, By Wahl, Ronald E., Olsen, Richard S., Bluhm, Paul F., Yule, Donald E., and Hynes, Mary E.                            |                           |
| TR-GL-87-14.8        | 08/92       | Seismic Stability Evaluation of Folsom Dam and Reservoir Project: Report 8, Mormon Island Auxiliary Dam - Phase II, By Wahl, R. E., Crawford, S. G., Hynes, M. E., Comes, G. D., Yule, D. |                           |
| TR-GL-90-2.3         | 03/92       | Land Loss Rates; Report 3, Louisiana Coastal Plain, By Dunbar, J. B., Britsch, L. D. and Kemp, E. B., III   | A256591                   |
| TR-GL-92-2           | 03/92       | Seismic Detection and Location of Tunnel Boring Machines at the Stanislaus River Hydroelectric Development Project Calaveras County, California, By Lewis, R. D.                          | B162506                   |
| TR-GL-92-5           | 05/92       | Strength Property Estimation For Dry, Cohesionless Soils Using The Military Cone Penetrometer, By Perkins, William E.   | A255558                   |
| TR-GL-92-6           | 06/92       | Laboratory Measurement of Pullout Resistance of Geotextiles Against Cohesive Soils, By Gilbert, Paul A. Oldham, Jessie C., Coffing, L. Rodgers, Jr.                                       | A253752                   |
| TR-GL-92-12          | 08/92       | Assessment and Selection of an Automated Electrical Resistivity Interpretation Procedure, By Simms, Janet E. and Butler, Dwain K.   | A255749                   |
| TR-GL-92-16          | 09/92       | Two-Dimensional Planar Geosystems Subjected To Three-Dimensional Dynamic Loads, By Sykora, David W.   |                           |
| TR-3-712SUPP6        | 12/92       | Selected Geologic Literature, Lower Mississippi Valley Division Area Index and Annotated Bibliography, Supplement 6 By Saucier, R. T. and Hunt, R. W.                                     | A148945                   |
| TR-S-70-9.SUPP       | 12/92       | Study of Clay Shale Slopes Along the Panama Canal Report Supplement, A Reanalysis of the East Culebra Slide, Panama Canal, By Banks, D. C.  | A061404                   |



### Partial Listing of Geotechnical Experts at WES

| <i>Research</i>                         | <i>Contact</i>       | <i>Telephone</i> |
|---|----------------------|------------------|
| Blasting Vibrations                     | Dr. P. F. Hadala     | 601-634-3475     |
| Drilling and Sampling                   | Mr. M. A. Vispi      | 601-634-2254     |
| Earthquake Engineering                  | Dr. M. E. Hynes      | 601-634-2280     |
| Engineering Geology                     | Dr. L. M. Smith      | 601-634-2497     |
| Engineering Seismology                  | Dr. E. L. Krinitzsky | 601-634-3329     |
| Geomorphology                           | Dr. L. M. Smith      | 601-634-2497     |
| Geophysics                              | Dr. D. K. Butler     | 601-634-2127     |
| Geotechnical Computer-Aided Engineering | Mr. E. V. Edris      | 601-634-3378     |
| Geotechnical River Engineering          | Dr. V. H. Torrey III | 601-634-2619     |
| Geotextiles                             | Dr. J. Fowler        | 601-634-2703     |
| Numerical Modeling                      | Dr. J. F. Peters     | 601-634-2590     |
| Rock                                    | Dr. D. C. Banks      | 601-634-2630     |
| Rock In-Situ Testing                    | Mr. J. B. Warriner   | 601-634-3610     |
| Soil Dynamics                           | Dr. A. G. Franklin   | 601-634-2658     |
| Soil Erosion                            | Dr. E. B. Perry      | 601-634-2670     |
| Soil Foundations                        | Dr. L. D. Johnson    | 601-634-3840     |
| Soil In-Situ Testing                    | Dr. R. W. Peterson   | 601-634-3737     |
| Soil Instrumentation                    | Mr. R. E. Leach      | 601-634-2727     |
| Soil Laboratory Testing                 | Mr. G. P. Hale       | 601-634-2219     |
| Soil Mechanics - General                | Mr. W. M. Myers      | 601-634-2640     |
| Soil at Waste Sites                     | Mr. R. D. Bennett    | 601-634-3974     |
| Subbottom Acoustic Survey               | Mr. R. F. Ballard    | 601-634-2201     |
| Underground Utilities                   | Mr. R. D. Bennett    | 601-634-3974     |
| Water Wells                             | Mr. R. E. Leach      | 601-634-2727     |

---

*Director of the Soil Mechanics Information Analysis Center is David R. Haulman who has been an engineer at the Waterways Experiment Station since 1978. He holds degrees from the University of Southwestern Louisiana, the University of Southern California, and Mississippi State University. He is a registered professional engineer.*

---

|                    |                                     |
|--------------------|-------------------------------------|
| Accession For      |                                     |
| NTIS CRA&I         | <input checked="" type="checkbox"/> |
| DTIC TAB           | <input type="checkbox"/>            |
| Unannounced        | <input type="checkbox"/>            |
| Justification      |                                     |
| By                 |                                     |
| Date               |                                     |
| Availability Codes |                                     |
| Dist               | Avail. or Special                   |
| A-1                |                                     |



The SMIAC Bulletin is published in accordance with AR 25-30 as one of the information exchange functions of the Corps of Engineers. The purpose of the bulletin is to rapidly and widely disseminate information to other Corps offices, US Government agencies, and the engineering community in general. The bulletin does not promulgate Corps policy. The contents of this bulletin are not to be used for advertising, or promotional purposes, nor are they to be published without proper credits. Any copyrighted material released to and used in *The SMIAC Bulletin* retains its copyright protection, and cannot be reproduced without permission of copyright holder. *The SMIAC Bulletin* will be issued periodically. Communications are welcomed and should be made by writing US Army Engineer Waterways Experiment Station, ATTN: David Haulman (CEWES-GV), 3909 Halls Ferry Road, Vicksburg, MS 39180-6199, or calling 601-634-3376.

*Robert W. Whalin*

ROBERT W. WHALIN, PhD, PE  
Director

BULK RATE  
U.S. POSTAGE PAID  
Vicksburg, MS  
Permit No. 85

DEPARTMENT OF THE ARMY  
WATERWAYS EXPERIMENT STATION, CORPS OF ENGINEERS  
3909 HALLS FERRY ROAD  
VICKSBURG, MISSISSIPPI 39180-6199  
OFFICIAL BUSINESS  
CEWES-SC-A